

# The Suez Canal

MARCH, 1876.

## THE SUEZ CANAL.

AMONG the very many efforts of genius, industry, and perseverance in the way of labors designed to be beneficial to the progress and well-being of mankind, it is difficult to name another possessing the same romantic interest as that which surrounds the story of Ferdinand de Lesseps, and the Canal which he made across the Isthmus of Suez.

The revival of public interest in this great engineering feat, through the recent acquisition by Great Britain of an important financial interest in its success, and the possible political questions which may grow out of this occurrence, form sufficient reasons for giving at this time an historical account of the entire project.

One morning in the month of August, 1854, a French gentleman was engaged in superintending some masons, who were at work adding a story to his house at La Chênaie—a house that had once been occupied by the famous Agnes Sorel. For the previous two years he had devoted himself to agricultural and country pursuits. His career would, indeed, seem to have been closed, for he had led a busy, stirring life in foreign countries, having filled the various

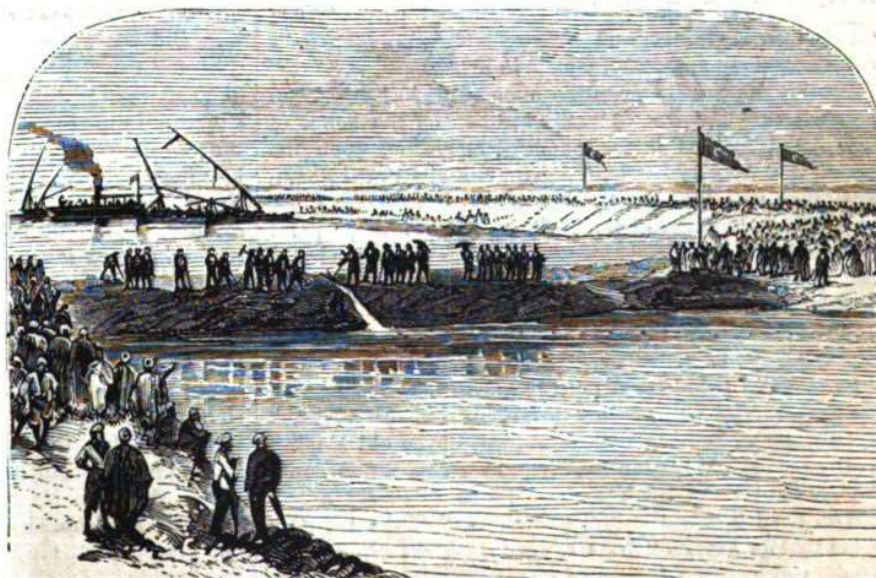
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grades of consulship in Tunis, Egypt, Rotterdam, Malaga, Barcelona; had been minister at Madrid, and, finally, at Rome. He had shown himself a man of energy and purpose, and for his successful exertions at Barcelona, in 1842, to avert a bombardment, had been presented with a gold medal by the resident French, and an address of thanks from the municipality. But his chief experience had been gained in the East, where he had made friends and connections, and, with a Frenchman's sympathy, had thoroughly identified

himself with the politics and manners of Egypt. After some five-and-twenty years' service he found that his course at Rome was not approved by his Government, on which, in 1849, he resolved, apparently in some disgust, to withdraw from the service and claim his retirement. The name of this gentleman was Count Ferdinand de Lesseps; and, as he was now about fifty years old, it might fairly be concluded that his career was closed, and that, beyond an occasional cast at the game of politics—open to a Frenchman at any age—life did not offer space for any important undertaking. But his eyes and ears were still turned fondly back to the picturesque land of Egypt; and he entertained himself with

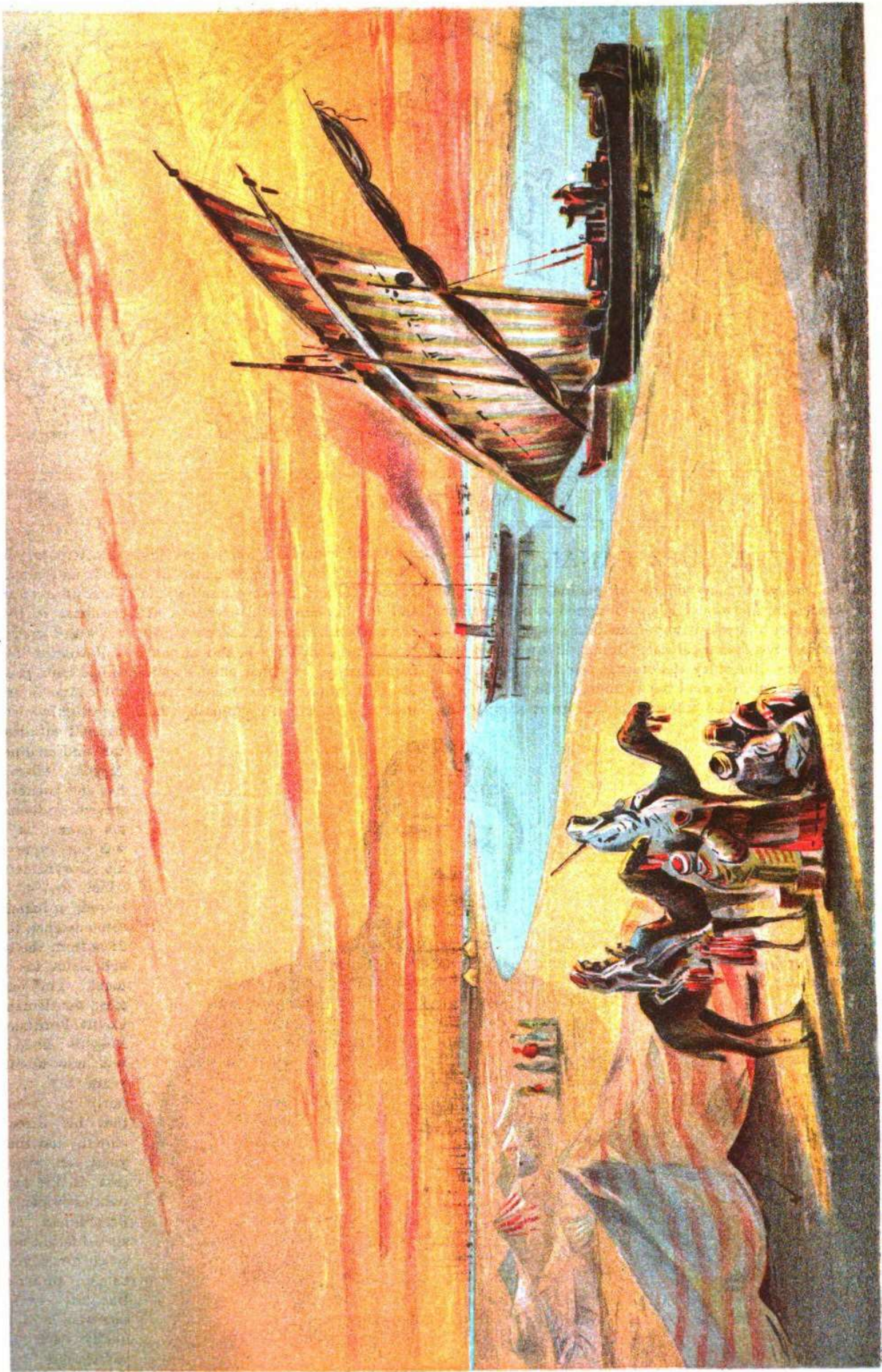


THE KHÉDIVE OF EGYPT.



SUEZ CANAL.—UNION OF WATERS OF RED SEA AND MEDITERRANEAN, AUGUST 12TH, 1869.





GENERAL GORDON'S SUEZ CANAL AT PORT SAID, ON THE MEDITERRANEAN.



what could be no more than a dream, or a fabric as baseless — of “piercing” the Isthmus. At the moment almost of his retirement, this project began once more to fill his thoughts; for, indeed, twenty years before, when in Egypt, he had often turned over the scheme, and seen in imagination the waters flowing through the canal and the ships sailing along. In 1852 he had again recurred to the design, had drawn up a programme which he had translated into Arabic, and took the step of writing to an old friend, the Dutch consul-general, to know what chances there were of its acceptance by Abbas Pasha, then Viceroy. The answer was unfavorable. But already the mind of the projector was beginning to be stimulated by obstacles, and to show that fertility of resource which obstacles generated. One of the Fould family was then proposing to establish a bank at Constantinople, and De Lesseps seized the opportunity to have the proposal opened to the Sultan. It was coldly declined, on the ground of its interfering with the prerogative of the Viceroy. Seeing that it was hopeless, our projector laid the whole aside for the present, and, as we have seen, turned his thoughts to agriculture. And thus two years passed away.

On that morning, then, of August, 1854, when engaged with the masons, and standing on the roof of Agnes Sorel's house, the post arrived, and the letters were handed up from workman to workman till they reached the proprietor. In one of the newspapers he read the news of the death of Abbas Pasha and of the accession of Mohammed Saïd, a patron and friend of the old Egypt days. They had been indeed on affectionate and confidential terms. Instantly the scheme was born again in his busy soul, and his teeming brain saw the most momentous result from this change of authority. In a moment he had hurried down the ladder, and was writing congratulations, and a proposal to hurry to Egypt and renew their old acquaintance. In a few weeks came the answer, and the ardent projector had written joyfully to his old friend the Dutch consul that he would be on his way in November, expressing the delight he would have in meeting him again “in our old land in Egypt,” but “there was not to be so much as a whisper to any one of the scheme for piercing the Isthmus.”

On the 7th of November he landed at Alexandria, and was received with the greatest welcome by the new ruler. The viceroy was on the point of starting on a sort of military promenade to Cairo, and insisted on taking his friend with him. They started; but the judicious Frenchman determined to choose his opportunity, and waited for more than a week before opening his daring plan to his patron. It was when they had halted on their march, on a fine evening, the 15th, that he at last saw the opportunity. The viceroy was in spirits; he took his friend by the hand, which he detained for a moment in his own; then made him sit down beside him in his tent. It was an anxious moment. He felt, as he confessed, that all depended on the way the matter was put before the prince, and that he must succeed in inspiring him with some of his own enthusiasm. He accordingly proceeded to unfold his plan, which he did in a broad fashion, without insisting too much on petty details. He had his Arabian memoir almost by heart, so all the facts were present to his mind. The Eastern potentate listened calmly to the end, made some difficulties, heard the answers, and then addressed his eager listener in these words:

“I am satisfied; and I accept your scheme. We'll settle all the details during our journey. But understand that it is settled, and you may count upon me.” Delightful assurance for the projector, whose dreams that night must have been of an enchanting kind! This was virtually the “concession” of the great canal.

But already the fair prospect was to be clouded; and, at starting, opposition to so daring a scheme came from Eng-

land, and from Turkey, moved by England. It is certainly not to the credit of England that from the beginning she should have persistently opposed it; not on the straightforward ground of disliking the scheme, but on the more disingenuous one of its not being feasible. She had so industriously disseminated this idea, that it was assumed that the canal was impracticable. Those wonderful French *savants* who went with the expedition to Egypt had announced that there was a difference of level amounting to thirty feet between the two seas, so that the communication would only lead to an inundation or a sort of permanent waterfall. Captain Chesney, passing by in 1830, declared that this was not so; but the delusion was accepted popularly up to 1847, when a commission of three engineers, English, French, and German, made precise levellings, and ascertained that it was a scientific mistake. Robert Stephenson, the English member of the party, pronounced the whole scheme impracticable.

But, before proceeding with the recent history of this undertaking, we may properly relate a few facts concerning more ancient views and acts in the same connection.

The connection of the Mediterranean with the Red Sea by a canal was considered a desirable object at a very early period in the history of the world. Nekao or Nechos II., of the twenty-sixth Egyptian dynasty, in about the year 700 B.C., planned a canal across the Isthmus of Suez, from the execution of which, however, he desisted, warned by the advice of an oracle, after having lost 120,000 men in the attempt. It is even asserted that, as early as the time of the Pharaohs, such a canal was actually constructed, extending from the Nile, near Belbeis, to the Gulf of Suez. In more recent times Napoleon I. projected a canal across the Isthmus, and predicted that the execution of this great work would promote the prosperity and insure the safety of the Turkish Empire. But to proceed with our narrative of the progress towards success of the project of the great French engineer.

In 1855 a commission of eminent engineers selected from different countries was appointed to make an examination of the route proposed by M. de Lesseps. The report of this commission was favorable to the construction of a canal, and indicated Suez and Pelusium as the only points between which a ship-canal was practicable.

On January 5, 1856, the charter of concession was granted by the Viceroy of Egypt. This concession defined the work to be executed as: “First, a canal navigable for large vessels between Suez and Pelusium; second, a canal of irrigation adapted to river traffic on the Nile, connecting that river with the Suez Canal; third, two branches for irrigation and supply, striking out of the preceding canal in the directions, respectively, of Suez and Pelusium. This work to be completed in six years, and four-fifths of the workmen employed to be Egyptians; Lake Témaah to be converted into an inland harbor fit for vessels of the highest tonnage; a harbor of refuge to be constructed at the entrance of the maritime canal at the Gulf of Pelusium; and the necessary improvement to be made in the port and roadstead of Suez. The Egyptian Government to have a claim of fifteen per cent. on the net profits of each year. It is further provided that the canal shall always remain open as a neutral passage to every maritime ship; that the maximum toll of passage shall be ten francs per ton on ships and per head on passengers; and that the provisions of this charter shall be in force for ninety-nine years after the opening of the canal.”

In November, 1858, the subscription was opened, and by the end of the month the entire capital of eight million pounds sterling was subscribed for and the company constituted in 1859. The dimensions of the ship-canal were set down to be 90 miles in length, 330 feet wide at the water-line, and its bottom 27 feet below the water-level in the



Mediterranean. The stupendous character of these works can be understood, when it is remembered that they had to be carried on by thousands of men at a spot many miles from where a drop of water or morsel of food could be obtained—in fact, in the midst of the desert; and also that the canal was always in danger of injury from drifting sand, and from bars formed by the immense quantity of sand and mud carried down by the Nile.

During the progress of the work, the scene was visited by the Viceroy in person, who could not but have experienced sentiments of pride in witnessing the labors whose results were to so benefit the world, and so honor his administration of Egyptian affairs.

The establishment of the overland route to India, in 1837, was the beginning of a series of attempts to shorten the way to India. The mails were taken to Cairo by large and small vessels built for the service, whence they were sent across the desert to Suez. Next came the railway built by Stephenson, from Cairo to Suez, which was opened in 1858.

The Isthmus of Suez, at the part selected for the operations of M. de Lesseps, is about 72 miles wide, measured as the crow flies. The difference of mean level of the Mediterranean and Red Sea, supposed at one time to amount to 30 feet, is now known to be very small, the latest measurement giving it as only 6½ inches. But whilst the former sea is nearly tideless, the rise and fall not exceeding nine inches, there is a tide of 3 feet 6 inches in the Red Sea. The general character of the Isthmus is flat, and it is the natural water-basin of the adjoining countries. Eastward of Damietta stretches a long and narrow bank of sand, forming a bar, the top of which is about five feet above the level of the Mediterranean. Within this bar are the Lagunes of Menzaleh, about 25 miles long. The Mediterranean mouth of the canal is cut through the sand bar at Port Saïd, 18 miles west of Pelousa. After passing through the Lagunes of Menzaleh, the canal cuts through a strip of sand, four miles wide, separating the Lagunes of Menzaleh from those of Ballah, the width of which latter is 14 miles. Then occurs the elevated plateau of El Guisr, the highest ground between Port Saïd and Suez. Through this the canal is carried in a very considerable cutting, nine miles and a half long, with a maximum depth of 55 feet. After crossing this plateau, a depressed plain is reached called Lake Timsah; the lowest level of this plain is 19 feet below the water of the Mediterranean. On the borders of Lake Timsah is Ismailia, a town built by the company, where they have located the general direction of the works. The canal then cuts through the ridges of Toussoum and Serapeum, 46 feet above the level of the Mediterranean, and nine miles long. The canal then traverses the Bitter Lakes, and finally cuts through the ridge of Chalouf, 26 feet above the level of the Mediterranean, the southern slope of which forms the plain of Suez, 6 feet 6 inches above sea level. After crossing this plain, the Lagune of Suez is reached, which communicates with the Red Sea by a narrow inlet.

The fresh-water canal commences at a place called Zagazig, to which water is brought from the Nile by one of the branches of the main stream, passes within a mile or two of Ismailia, and thence to Suez, following a line not very distant from the sea canal. At the point where it turns southward to Suez, a branch is carried to Ismailia, to supply the population there, and also some hydraulic machinery, which forces water through a double line of nine-inch pipes, carried along the line of the sea-canal to Port Saïd. The fresh-water canal is navigable, and terminates at Suez in a lock, by which vessels drop into the creek which brings vessels from the anchorage to the town. The dimensions of the fresh-water canal are: width at surface, 41 feet; width at bottom, 26 feet; depth, 4 feet 6 inches. The general dimensions of the salt-water canal are:

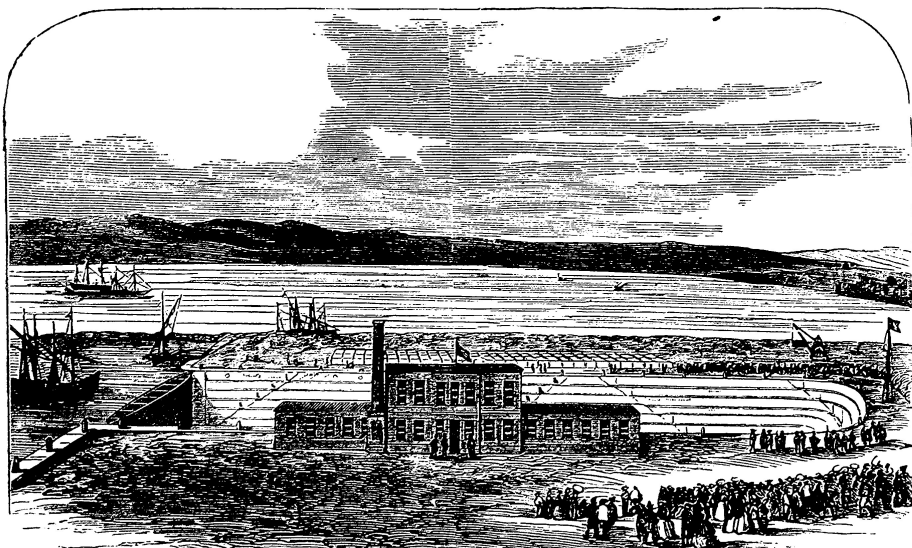
width at water-level in embankment, 328 feet; ditto in cutting, 190 feet; width at bottom, 72 feet; depth, 26 feet 3 inches; the batter of the sides varies with the nature of the soil, the steepest slope being about 2½ to 1.

The first work of excavation was performed by Fellahs, supplied by the Egyptian Government, the mode of operation being the primitive one of scooping up the sand and carrying it away in baskets on the head. Afterwards, the supply of Fella labor by the Government was stopped, and the greater part of the excavation was performed by steam dredgers. These dredgers were driven by 35 horse-power engines, lifting twenty-six gallon buckets, at the rate of twenty per minute. Generally the dredge-buckets tipped their contents into a long timber shoot, sometimes 230 feet in length. Into this shoot water was pumped, so as to carry away the spoil and deposit it on the banks of the canal. The descent of the silt along the shoot was further facilitated, when necessary, by scrapers attached to an endless chain, passing over pulleys at each end of the shoot, and driven by the dredger engine. The shoots had a semi-elliptical section, 5 feet wide and 2 feet deep. They rested on a pair of lattice girders, carried by an iron frame, standing on a barge moored inshore of and parallel to the dredger. When the banks were too high to be commanded by the shoot, the "appareil élévateur" was used. This was designed to lift trucks full of spoil from barges, and run them to tip inshore. It consisted of two lattice girders, extending from a barge moored to the shore, carrying a tramway rising shorewards 1 in 6. This frame was supported partly on the barge, partly on a platform carriage on the shore. The lower or barge end of the frame was 10 feet above the water-level; the higher or shore end 46 feet. On the tramway ran a four-wheeled carriage, to which the sand trucks were slung. The spoil having been deposited in these trucks by the dredger, they were carried by a barge to the elevator. The trucks were then slung to the elevator carriage by a tackle, and raised by an engine to the shore end of the elevator, where by an ingenious arrangement they were tipped.

On leaving Port Saïd the canal enters Lake Menzaleh, through which the channel runs for twenty-nine miles. The waters of this lake are shallow and the bottom composed of mud. At times the sea washes over the strip of sand to the north of the lake. It was found, however, that a firm dry soil was below the mud. Leaving Lake Menzaleh at Kantara, a station on the desert route between Egypt and Syria, the course of the canal for two miles lies through low sandhills. It then enters Lake Ballah, traverses it for a distance of eight miles, and then enters a deep cutting extending from El Ferdane to Lake Timsah. Near El Guisr, four miles south of El Ferdane, the deepest cutting throughout the line had to be excavated, varying from sixty feet to seventy feet. The characteristics of the first half of the Maritime Canal are that about thirty four miles of its course lie through lakes, the remainder through elevated plateaux. The second half of the channel, from Ismailia to the Red Sea, divides into two portions; in the first the canal skirts the eastern shore of Lake Timsah and enters the cuttings at Toussoum and Serapeum; in the second it passes through the Bitter Lakes for twenty-four miles, goes through the last cutting at Chalouf, and enters the Red Sea a mile to the southeast of Suez. The most southern point to which the waters of the Mediterranean have as yet penetrated is at Toussoum.

Lake Menzaleh extends from the Damietta branch of the Nile to the Pelusian Plain. The Pelusiatic branch of the "Seven mouthed Nile" passes through this lake. Around this large sheet of water are many celebrated places, amongst which is Zoan, built seven years after Hebron—Numbers xii. 22, and called in the Psalms "The Field of





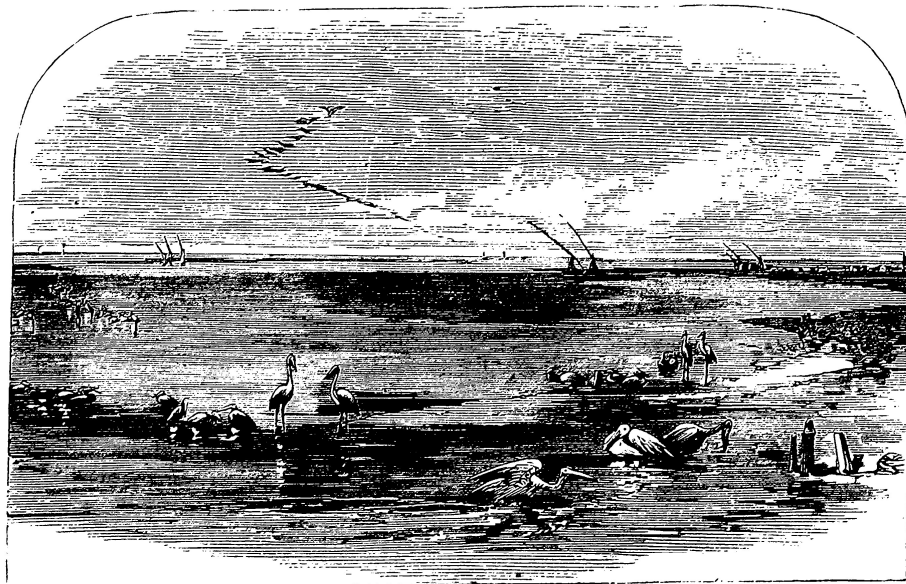
BASIN FOR THE SUEZ CANAL AT SUEZ.

all fishermen. There is almost no other occupation. Fish is salted and sent by boat, by camels and asses, to all parts of Egypt. The birds are also of the Ichthyophagi. There is an Isle of Pelicans. Herons and wading birds of all kinds are plentiful, and the fish are so abundant that there is ample food for all. In looking across this vast lake one sees, as far as the horizon, long strips of land; islands with a short herbage on them; here and there an Arab village of reed huts; and among these islands may be seen boats, with their crews busy at work in the only employment of the place. When the Nile is full the lake rises, and

Zoan" (lxxviii. 12) and stated to be the scene of the miracles of the Exodus. It is one of the oldest cities in Egypt, and obelisks, broken statues, and fragments of granite still remain as indications of its ancient importance. In the Museum of Egyptian antiquities at Boulak, near Cairo, there is a fine piece of sculpture found at Zoan, or Zan, as it is now called. It represents two figures, sitting, with reeds growing up to their knees; in the reeds are fish, and on the men's laps are presentations or offerings of fish. The faces of these men are quite distinct from the types of Upper Egypt, and they are clearly and most artistically expressed. The fish are evidently as truthful portraits as the men, and show the character of the locality at that time to be exactly as we find it to-day. The lake is full of fish, and consequently the people are



WORKMEN LOADING A DIRT TRAIN OF DROMEDARIES.



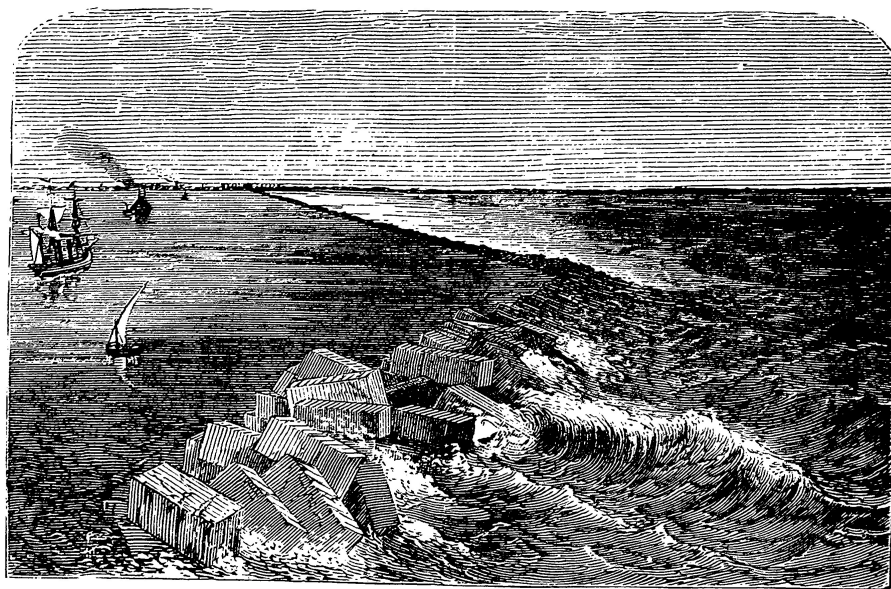
LAKE MENZALEH.

all the islands are covered, and even the Pelusian Plain; and the level is higher than that of the Mediterranean, and consequently above the canal. As the Menzaleh lake is on the west, the plain of Pelusius is on the east side of the Suez Canal. This plain is, in fact, the portion of the lake which has been filled up and become solid ground—a process which has been evidently going on for many a day. As islands on the lake are the features on the one side, small lakes on the plain form the distinctive character of the other. The highway from Palestine, Syria, and Persia came by this plain; a road still exists, and a ferry had to be established at Kantara, which word expresses "ferry," and tells of the former ex-

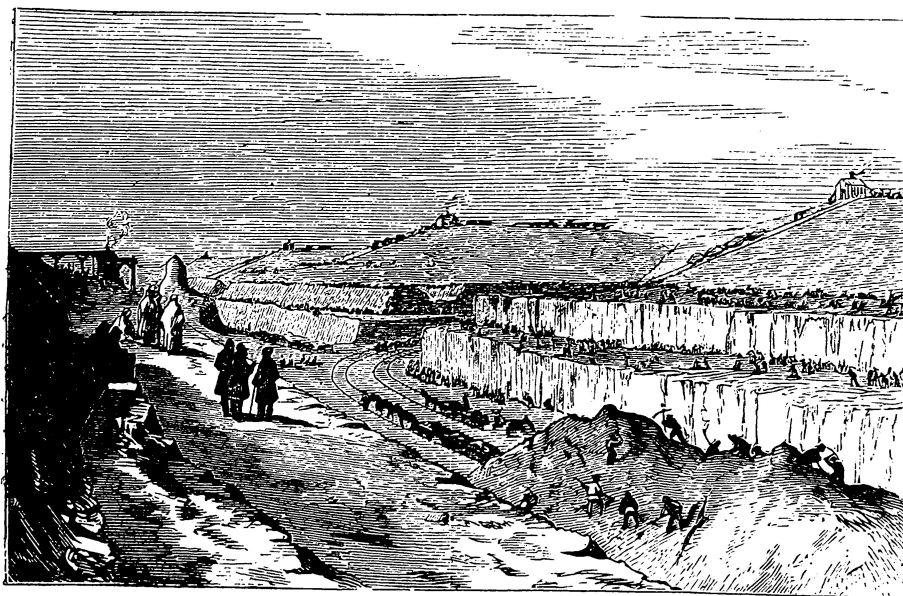


istence of the means of crossing the waters of the lake at this place. Not far from this was the ancient Migdol of Scripture, a tower or fortress defending the way. The houses for the people employed on the canal at Kantara are principally built from the bricks of an ancient city in the neighborhood, supposed to have been Selé.

In Summer the heat is intense and almost intolerable; thermometrical observations taken during 1867 and 1868 show that the mean temperature of the four months, beginning with June and ending with September, was 94 deg. Fahrenheit, and that 120 deg. in the shade was not an uncommon record, while the minimum of night was 75 deg.



BREAKWATER AT PORT SAID.

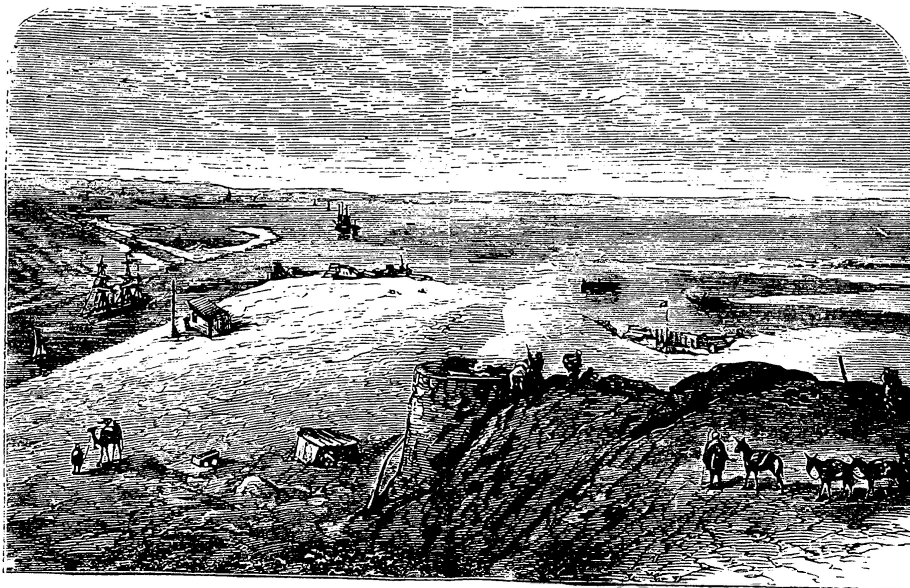


DIGGING THROUGH THE PLATEAU OF CHALOUF.

During the succeeding four months the mean temperature was 74 deg.; and the Winter, if so it can be called, proved that the lowest range of the thermometer was 45 deg. Until the year 1867 rain was unknown, but in the twelve-month ending April, 1868, there were actually fourteen days on which rain fell. "The scenery about Ismaïlia," says a recent observer, "is monotonous, but it can scarcely be regarded as uninteresting. Cloudless skies of the richest blue are contrasted with the vast expanse of yellow sand which stretches away into a hazy distance. The dark waters of the lake sparkle and flash unceasingly, for there is always a fresh breeze to temper the extreme sultriness. The desert is susceptible of many shades and

transitions of color, sometimes so gradual as to be scarcely perceptible, often so sudden and mysterious that it is hard to understand by what subtle atmospheric changes such strange effects have been produced. At Ismaïlia the stranger can fully realize the balm and beauty of the Egyptian night; and, sitting on the balcony of the Hôtel des Voyageurs, which commands the view of Lake Timsah, he may watch the moon rising slowly in a silver dawn while the rosy tints of the sunset are still lingering in the West.

The present Suez Canal has not the same dimensions throughout its entire length. For nearly four-sixths of the distance, it is 327 feet wide at the level of the water, and 72 at the bottom at a



LAKE TIMSAH.



depth of 26 feet. It is said that the earth and sand removed was not less than 96,000,000 cubic yards. Dredging machines were employed, and also a large number of the people of the country—the Fellahs, aided by Nubians, Syrians, Greeks, and Dalmatians, who were attracted by the pay. The entire length is 99 miles, and at the Mediterranean end M. de Lesseps created the town of Port Saïd, now containing thousands of inhabitants—natives, Abyssinians, and Greeks. Two points here jut out into the sea, affording space for a harbor, the eastern end being 2,000 and the western 2,760 yards, with a distance of 760 yards between them.

Another new town built by him is Ismailia, on the north bank of Lake Temsah. It has good hotels, cafés, a Roman chapel, Mohammedan mosque, a theatre, and even gardens of flowers. Among the interesting features of the desert are the so-called "Fountains of Moses," twelve in number in the midst of gardens enclosed by hedges of cactus.

On the 19th of March, 1869, the waters of the Mediterranean Sea were brought into the "Bitter Lakes," in the presence of the Viceroy and of a vast assemblage of the surrounding population. In the same month, when the great pilgrimage to Mecca took place, thousands of the pilgrims went by way of the Suez Canal as far as was then practicable, this being the first occurrence of such an incident.

In December, 1869, the canal was opened by the Viceroy, in the presence of the Empress Eugénie, who had traveled from Paris for the purpose, and of many representatives of foreign powers; but the political importance of the event gave great offence at Constantinople, and the Khédive was compelled to send a long letter to the Sultan deprecating his displeasure. The statistics of the Suez route, since its establishment, are as follows:

	Vessels.	Tonnage.
1870 . . . . .	491	634,915
1871 . . . . .	761	1,142,260
1872 . . . . .	1,081	1,741,431
1873 . . . . .	1,173	2,038,072
1874 . . . . .	1,234	2,423,672

The receipts have been:	Francs.
1870 . . . . .	5,159,327
1871 . . . . .	8,993,732
1872 . . . . .	16,407,591
1873 . . . . .	22,837,319
1874 . . . . .	24,859,383

By the above figures we see a constantly increasing return of receipts, and this, it is understood, amounts to nearly 200,000 francs per month. It has always been expected that the Nile sand and mud, carried eastward by the local current, would interfere with the navigation of the canal; but this has been avoided by the use of powerful dredging machines constantly working and keeping an open channel. At present sixty per cent., or forty million pounds sterling, of the trade between Europe and America and India passes annually through the canal. A trade has also sprung up between the Mediterranean countries, Austria and Syria appearing for the first time in the relations of trade with India. Many predictions have been falsified in regard to the working expenditures of the company. In the year 1873 the receipts were \$5,000,000, and the expenditure \$1,150,000, leaving \$3,850,000 as a net revenue. In 1874, against gross receipts of \$5,000,000, the expenditure was \$1,250,000. Port Saïd has not been choked up by a deposit of Nile mud, the canal has not been filled by the sand blown into it from the desert, and the water in it has not been carried off by evaporation—all of which misfortunes, it was confidently asserted, six years ago, would certainly happen.

The most recent important event in the history of the Suez Canal, and, indeed, in that of Egypt itself, is the purchase of the Khédive's shares in the canal by the British

Government for £4,000,000 sterling. The secret history of this transaction goes to show that the scheme originated in the brain of Mr. Frederick Greenwood, editor of the *Pall Mall Gazette*, and author of the well-known experiences of "The Lambeth Casual."

Mr. Greenwood, it is said, suggested the idea to Lord Derby, who proposed it to Disraeli, who jumped at it at once.

The financial situation of the Canal Company is said to be as follows: Besides bonded shares and delegations, the capital of the Suez Company consists of 2,500 founders' shares, 1,500 of which belong to the Viceroy, and 1,000 to the French holders. There are 400,000 shares of \$100 each, 177,642 of which were purchased by England lately, and 222,358 are in the hands of French capitalists. The remaining capital consists of 333,330 debenture bonds called Obligations, representing a loan of \$20,000,000, borrowed by the company, also 120 delegations, and 120,000 thirty-year bonds; the latter representing a loan of \$4,000,000. The capital already acquired by England is an inalienable property, while the shares in the hands of French holders are redeemable in 99 years. The financial importance of Great Britain's purchase of the Khédive's stock in the canal cannot be overestimated. As to the political results, it is difficult to judge concerning them at the present time. Considerable feeling has been produced by the transaction, both in France, where it is felt that a serious mistake has been made in not obtaining the stock for that country, and likewise in Russia; the *Moscow Gazette* having already considered the subject from a Russian standpoint, recognizing the preponderance of England in a political way by this acquisition, and caviling at such diplomacy in a manner which indicates that the feeling in Russia is, if anything, inimical to this remarkable episode in financial diplomatics.

In fact, it is among the possibilities that Russia might be roused to such a pitch of chagrin concerning the whole matter, as to make practical interference between the act of Great Britain and the hoped-for result. A recent newspaper correspondent, familiar with the entire question, sums the whole matter up in a sentence: "Suppose England gets full ownership through Egypt, and then Russia renews the Battle of the Nile and closes Port Saïd?"

Having rapidly sketched the history of the Suez Canal, and described its financial and business progress, we may not improperly turn our attention to some consideration of the purposes which this important project was designed to subserve.

#### COMMERCE WITH INDIA.

From the time of the Phoenicians and Carthaginians, the trade with India has always been a desideratum among the commercial nations of the earth. Endowed with almost fabulous wealth, the seat of manufactures unrivaled elsewhere among the empires of the earth, with a facility of production unsurpassed, there is little wonder that India should have long ago become the cynosure of the commercial eyes of the West. Combining the central and southeastern peninsulas of Asia, India, to-day, comprises an area of 1,576,746 miles, and a population of nearly 240,000,000 of people. Its cities are magnificent and wealthy. Among those having a population of more than one hundred millions, we may name the following: Calcutta, capital of Hindostan, situated in Bengal on the Hoogly river; Bombay, the chief seaport on the western coast; Madras, on the Coromandel coast; Benares, the chief city of the Hindoos, on the Ganges; Patna, in the province of Behai; Allahabad, situated at the confluence of the Jumna and Ganges; Lucknow, capital of Oude; Delhi, the metropolis of the Mohammedan empire in India.

So great a diversity of surface and scenery is presented by



India, that it has been called an epitome of the whole earth, consisting, as it does, of mountains far above the level of perpetual snow, broad and fertile plains bathed in sunshine, arid wastes, and impenetrable forests.

The first trade with this extensive, rich, and populous country was carried on by the ancient cities of Tyre and Carthage, from which it descended to Genoa and Venice, when those cities gained their commercial supremacy; from them again to the Portuguese, Dutch, and English, at periods ranging between the Middle Ages and the eighteenth century.

With his Portuguese bride, Charles II., King of England, received the Island of Bombay as a portion of her dowry; and it is an interesting incident of the history, both of India and the British East India Company, that he ceded this possession to the latter in 1669. Another episode of Indian history is furnished in the career of the great Warren Hastings, who assumed the administration of the East India Company's affairs in 1772, and in 1774 received the title of Governor-General, being the first so designated. Our readers will be at once reminded of the remarkable State trial of Warren Hastings in 1786, when he was impeached at the bar of the House of Lords for tyranny, corruption, and general malfeasance in office. He was attacked by Burke, Fox, Sheridan, and Earl Grey in speeches whose rhetorical display have rendered them remarkable in the history of English literature; yet, despite this array of talent and the terrific onslaught which had resulted from the course of his administration, Hastings was acquitted on the one hundred and forty-ninth day of the trial, in 1795. He was afterwards pensioned by the Government, and, at a later period, made a Privy Councillor. His administration of affairs in India is characterized by Macaulay as having been equal in its manifestations of energy and ability to that of the celebrated Cardinal Richelieu in France.

But all this *en passant*. We must return to the question of East Indian trade and commerce in their reference to the western nations of Europe; and, concerning this, we find that, until the Turkish conquest of Constantinople and Egypt put an end to it, the commerce with India was conducted chiefly by the Italian republics, in later days, by means of the overland route, *via Suez*—a significant fact, when we reflect that, after an expiration of more than three centuries, western civilization returns to this channel of communication with India, though now reopened, and made more feasible than ever, through the genius of the man whose labors we have already considered in the course of this article.

The Saracen conquest created the necessity for a new route to India, and, in the fifteenth century, the great object of navigators was to lay such a route by sea. The myth of the voyage around the Cape of Good Hope, said to have been made by Hanno, the Carthaginian navigator, who lived in the fifth century, rested then, as it rests now, upon no solid foundation. And, whatever effort might be made in that direction, must be made in blind faith. With some such faith, if not in fate, at least in the possibilities of his own capacity, Vasco da Gama left Lisbon on the 8th of July, 1497, and sailed around the Cape of Good Hope, touching at various places on the hitherto unknown eastern coast of Africa. Availing himself of the services of a native Indian pilot, whom he picked up somewhere in these quarters, Da Gama struck out to sea from western Africa, crossed the Indian Ocean, and arrived at Calicut, in India, on the 12th of May, 1498. He, however, was not favorably welcomed by the native princes of that portion of the coast which he had reached, and soon turned his course homeward, casting anchor at Lisbon in September, 1499, where he was received with great distinction.

As a result of this exploration, we see Portugal sending forth squadrons of ships, which founded the colonies of Mozambique and Sofalla, Bombay, Calicut, and concluded a peace with the native Rajah. After this, the Portuguese conquests in India increased rapidly, and were presided over by viceroys appointed by the Portuguese king. The Portuguese now, for nearly a century, monopolized the trade of India. In 1587 the Government chartered an East India Company, which was, however, abolished in 1640.

In the meantime, however, Holland, then a flourishing commercial country, had begun to have dreams of conquest and commercial supremacy in India; and, in 1595, a Dutch East India Company was formed, and soon returned large dividends, besides owning there, through capture or purchase, immense properties in valuable colonies, which were fortified and heavily garrisoned, while large fleets of vessels conducted a constantly increasing trade in this new field of commercial enterprise.

Batavia was founded by the Dutch, and is still the capital of the possessions of the Netherlands in the East Indies. It stands on the northwest coast of Java, and is an important commercial seat of the Far East, rivalling Singapore in this particular. The Batavian markets present at once all the productions of Asia and all the manufactures of Europe.

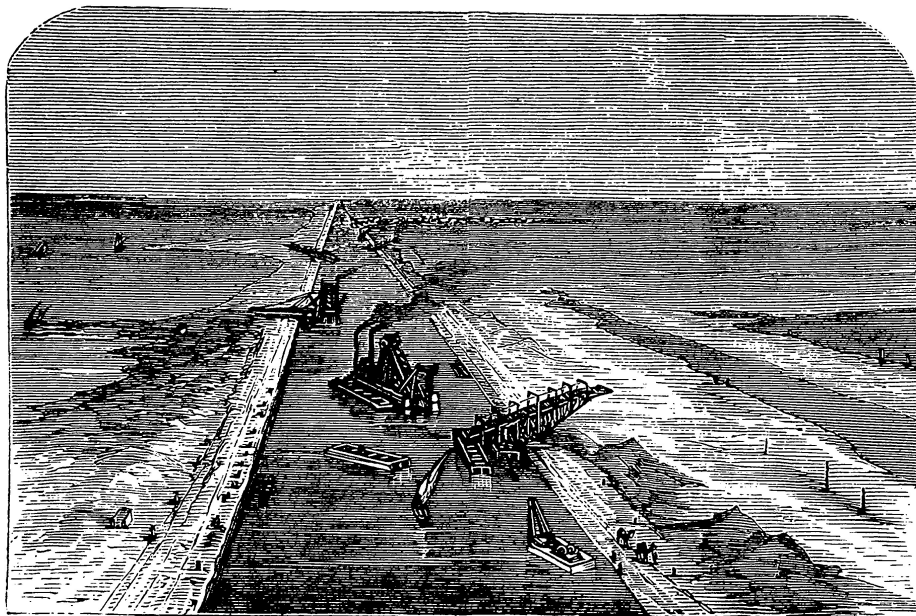
The Dutch Government has recently laid a telegraphic cable along a line of six hundred miles between the two cities, Batavia and Singapore. The chief industries of Batavia are factories for making machinery, for distilling, and for sugar works, dyeing, etc. The nutmeg, Kakao, and cocoanut tree are successfully grown.

Meanwhile the position of France and England proved a steadily increasing impediment to the progress of the Dutch East India Company; although, in 1700, it held cities of importance in Ceylon, Sumatra, Java, Borneo, and in fact throughout the Indian Archipelago, with colonies in South Africa. The Dutch commanded also trade with Pegu, Siam, Tonquin, Japan, the Moluccas, etc. The charter of this company was renewed for the last time in 1776; and, in 1781, the States General were forced to assist it with a loan. In the first French Revolution it lost nearly all its possessions in the East, and in 1795 terminated its existence—its affairs passing into the hands of the Government.

A French East India Company was founded in 1664, and was broken up in 1770. A Danish East India Company, founded in 1618, was dissolved in 1634, reconstructed in 1670, again dissolved in 1729, and reformed in 1732. It continued prosperous during the eighteenth century, since which time it has declined.

All of these companies, however, in the extent of their commerce, in their wealth, and in their political significance, were totally eclipsed by the great British East India Company. The first Englishman, who sailed to India by way of the Cape of Good Hope, was one Captain Stephens, who performed the voyage in 1582. Sir Francis Drake followed him; and Thomas Cavendish, in July, 1586, sailed from England with a little squadron fitted out at his own expense, and explored the Indian Ocean, returning home after a most successful voyage. These new experiments in English navigation doubtless gave the impetus which resulted in the formation of the company whose career we are now about to consider.

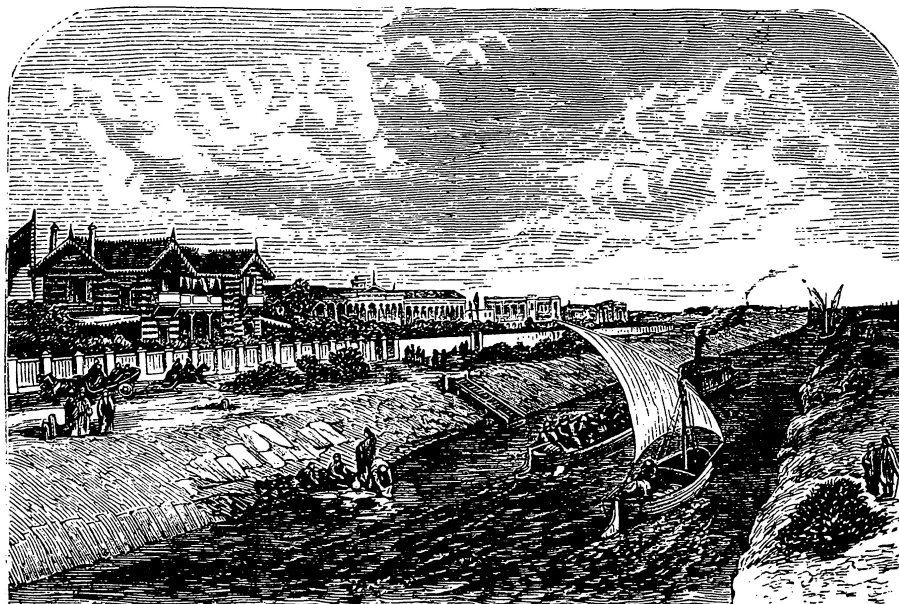
The British East India Company was chartered at London in 1600, and was abolished by Act of Parliament, August 2, 1858, when the East Indian possessions, trade, and power reverted to the crown, and the Queen of England could write among her titles that of Empress of India. It may be said of this corporation that it reached a height of power,



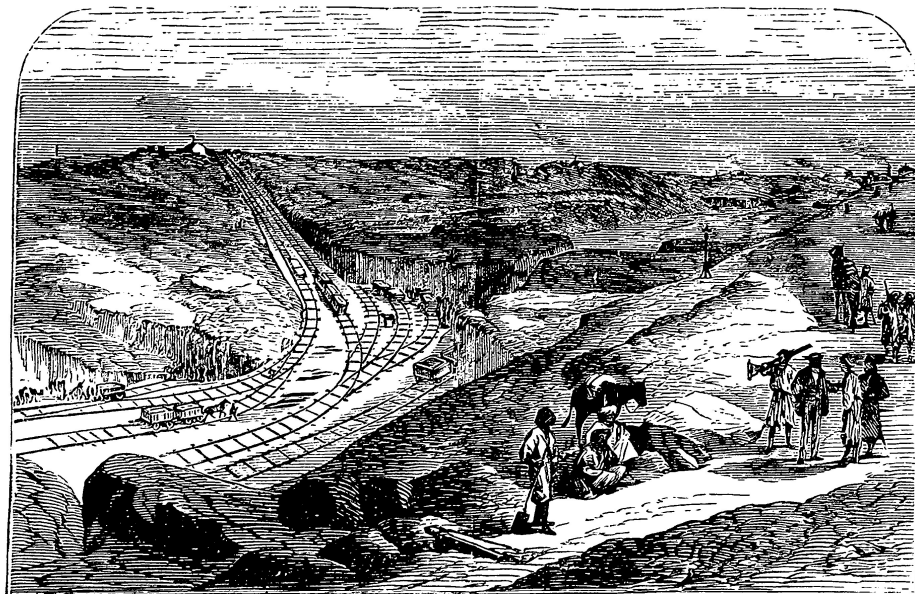
VIEW ON THE CANAL NEAR KANTARA.

wealth, and aggrandizement never equaled by any other similar association.

It owned vast and thickly-populated provinces, held native rulers tributaries and their Governments as appendages, and drew from the wealth of Indian provinces sums amounting to millions of pounds annually. Its factories were extended to Java, Sumatra, Borneo, Banda Islands, Celebes, Molucca, Siam, and the Coromandel and Malabar coasts. It had at one time power to make peace or war with any native people, to establish fortifications, garrisons, and colonies; to export, free of duty, ammunition and stores to its settlements, to exercise civil and criminal jurisdiction, and other valuable privileges.



ISMAÏLIA AND THE FRESH-WATER CANAL.



THE CUTTING NEAR CHALOUF.

For more than two centuries the East India Company wielded this tremendous power, and was only finally overturned by corruptions engendered within itself, although the immediate instrument of its destruction was the brief but bloody Indian revolt of 1857-58, whose occurrence directed public attention in England to the mismanagement of affairs in that sorely-abused country. The East India Company even sustained its own army in the country over which it held jurisdiction. At first, when agents were sent out to India for trade purposes only, an army was not thought of. This adjunct was one of the results of the exigencies of the time. Naturally, in the prosecution of the vast enterprises of the company, con-

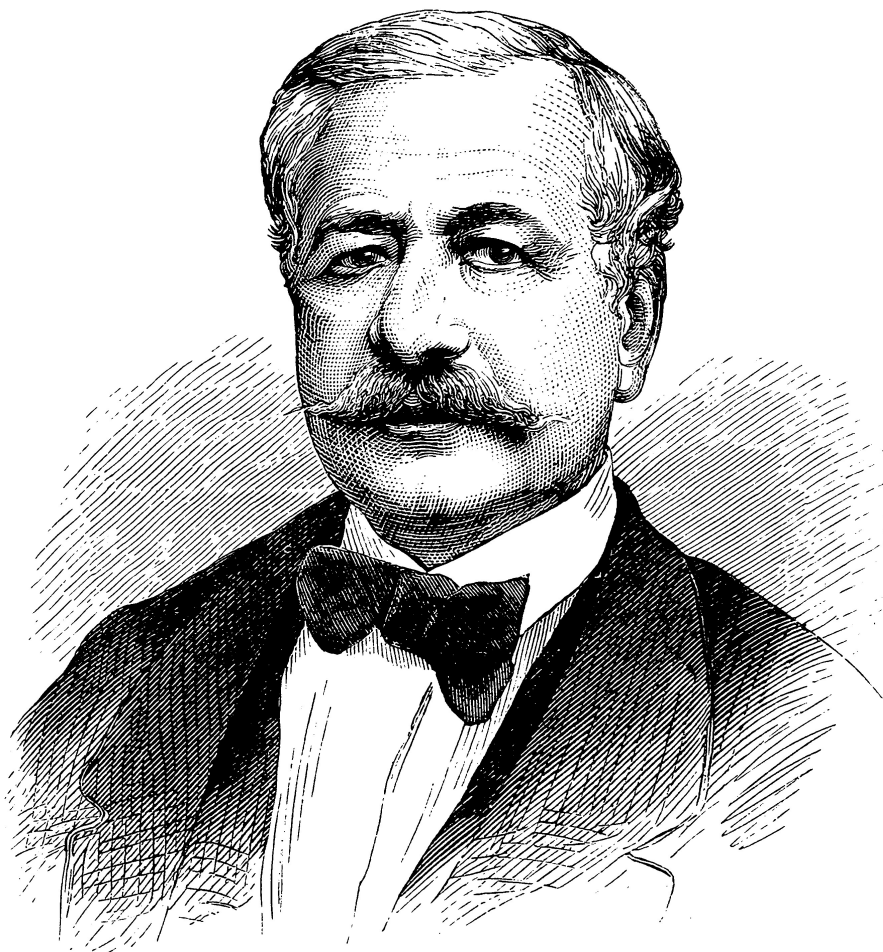
flicts would occur, and this necessitated military organization of some sort for self-protection. Some of the first troops in the company's pay were mere adventurers, some liberated convicts, some deserters from European armies. Gradually organization was introduced into this heterogeneous compound, improved arms were furnished, and, under the influence of drill and discipline, a respectable army was created. As the power of the company spread and increased, natives entered its battalions, until at length most of the troops were Hindoos or Mohammedans, drilled by non-commissioned officers sent out from England, and officered by Englishmen. A few regiments were raised in England,



a much larger number in India, and all alike were officered by young Englishmen, who were liberally paid, and had many opportunities for making rapid fortunes. At the period immediately preceding the outbreak of '57, the army in the pay of the company comprised about 24,000 royal troops, lent to and paid for by the company; 18,000 European troops, raised and drilled by the company in England; 180,000 native regulars; and 60,000 native irregular horse; making about 280,000 in all. This number was irrespective of 40,000 contingents, furnished by the native and semi-dependent princes.

During the revolt the fidelity of the native portion of this snow army was sorely tried, and, in fact, it melted away like beneath the sun. It is said that the armies of the Madras and Bombay Presidencies alone remained faithful, and of these particularly the infantry. It was in the Bengal army that the desertion chiefly occurred. The irregular troops—both cavalry and infantry, raised among the Sikhs and Punjaubese—were, in almost every case, faithful.

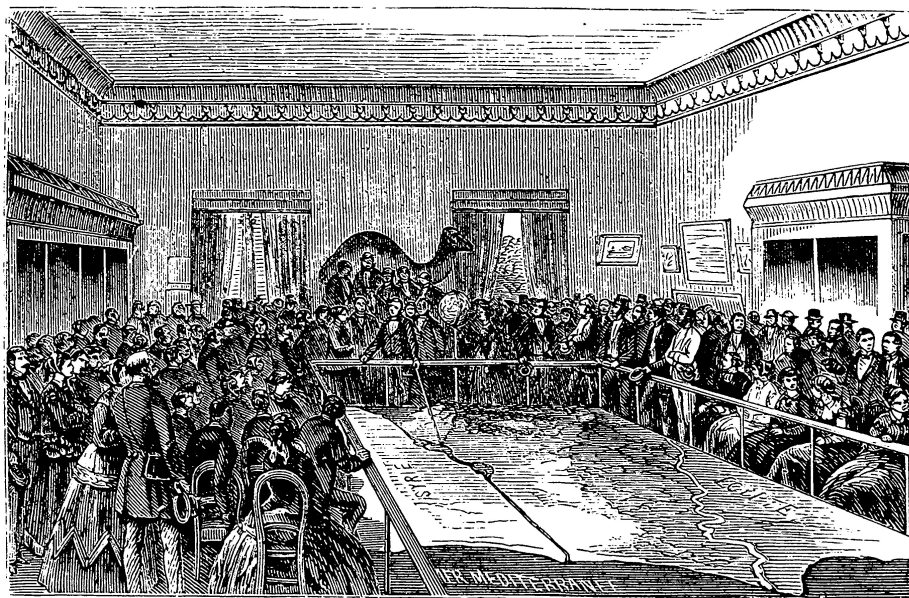
In August, 1858, the Act which transferred the Government of India from the company to the crown received the royal assent. The army was transferred as well as the political power, but no attempt was made to reorganize the native Bengal regiments, which had proved so treacher-



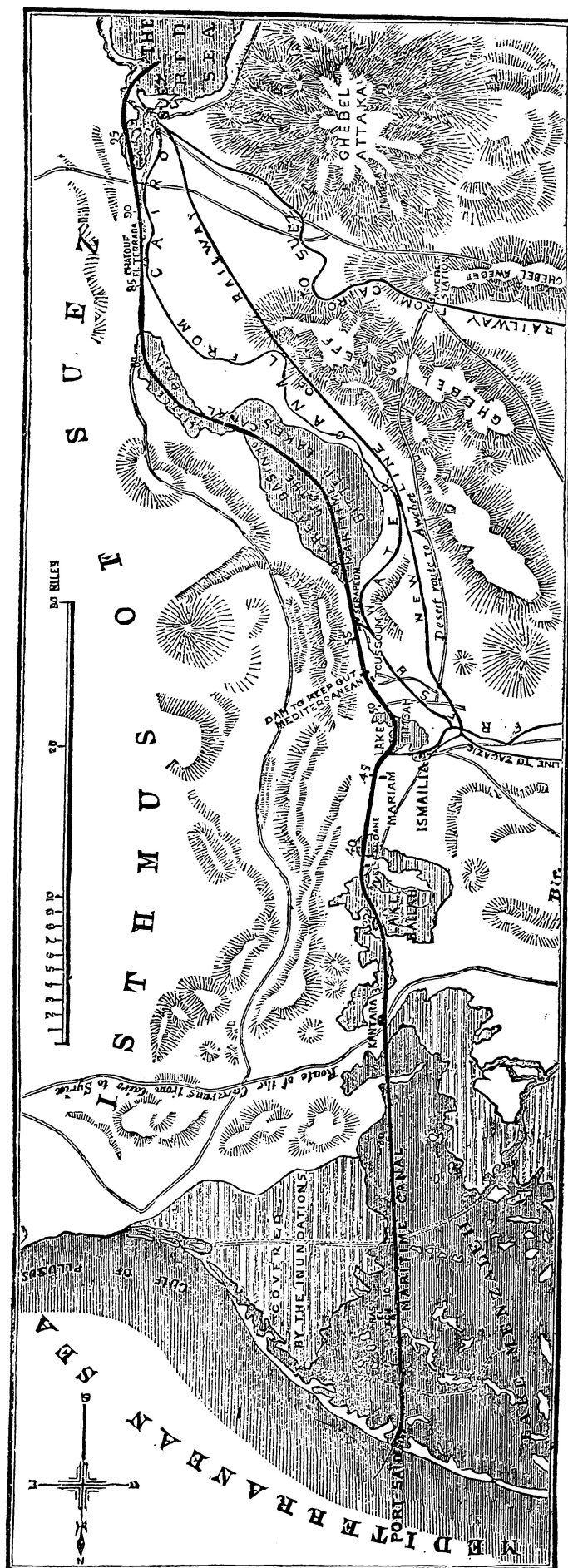
FERDINAND LESSEPS, PROJECTOR OF THE SUEZ CANAL.

ous. Properly speaking, the East India Company, as originally organized, were only merchants sending out bullion, lead, quicksilver, woolens, hardware, and other goods to India, and bringing home calicoes, silk, diamonds, tea, porcelain, drugs, sulphur, etc. Not merely with India, but with China and other parts, the trade was monopolized, and hence arose their great trade in tea, porcelain, and silks. By degrees avarice led many to take part in the native quarrels. These gave them power and influence in the native courts, whence

arose the acquisition of sovereign powers over vast regions. India became thus valued by the company, not only as commercially desirable, but as offering to the friends of the directors opportunities of making vast fortunes by political or military enterprise. In fact, we have represented in the East India Company, at the height of its power in India, a gigantic "Ring"—perhaps among the earliest in history—whose concentric satellites managed easily enough to work mischief in the immediate field of its action, to an extent far exceeding the petty efforts of later specimens of the genus. In the eighteenth century, the East Indian Nabob was a familiar individual in London, whither he had returned, laden, doubtless, with lacs of rupees, but burdened likewise with melancholia and liver complaint—the more serious results of the climate of India upon the constitution of the



M. DE LESSEPS EXPLAINING ON A RELIEF MAP, AT THE PARIS EXPOSITION, THE COURSE, DIFFICULTIES, AND ADVANTAGES OF HIS PROJECTED CANAL.



PLAN OF THE MARITIME CANAL WITH THE SMALL FRESH-WATER CANAL.

Englishman. This word "Nabob," by-the-way, is a corruption of the Hindoo word, "Nawab," which means "an administrator of a province and commander of an Indian army under the Mogul empire." These men acquired great wealth, and lived in true Oriental splendor, which gave rise to the expression, "rich as a Nawab," afterwards corrupted into that of Nabob.

It is not, however, to be supposed that the East India Company succeeded in gaining its great influence and in accumulating its wealth without opposition.

The fact is, that by the latter part of the eighteenth century the monopoly had become utterly dissatisfactory to the British nation at large, and being obliged to obtain a loan of a million pounds from the Government, various restrictions were imposed upon the company, so that in its later years its powers became anomalous, since it could neither trade nor govern without the sanction and continued interference of the Imperial Government. In fact, the wars in India since 1833 had been waged by England as a nation rather than by the company, and England practically became responsible for the enormous expense of these wars. The last renewal of the charter of the company, with the further lessening of its power, occurred in 1853, and was to run twenty years—an arrangement, however, with which the Indian revolt interfered.

The company continued to exist, however, but for little purpose, in a military and political way, except to assist the Home Government by their general knowledge of India affairs. These affairs are now managed by a secretary and council at the new India office. The valuable library and museum of the company were passed over to the Crown; and an Act of Parliament, in 1873, provided for the paying off of the Indian stock, and the final extinction of the once famous East India Company.

But whatever corruptions or improprieties may, legitimately, be complained of with regard to the management of British affairs in India, it is certain that her supremacy has resulted in a most wonderful development of that country, and a thorough utilization of its resources.

Railways, constructed by the British, now overspread the entire land. There are lines running in the valley of the Ganges from Calcutta to Delhi, and connected with Lahore and Lucknow, and others, by which Bombay, Allahabad, and Calcutta are similarly connected. In 1873 there were 5,478 miles of railway in Hindostan, and 15,102 miles of telegraphic wire. A submarine cable connects Suez with Bombay, while land-lines extend from Constantinople to Bagdad, and thence to the head of the Persian Gulf, which, by submarine cable, is united with Kurrachee, the only port in the province of Scinde for sea-going ships, lying about twelve miles north of the Indus river, and from which place are exported camels, fish, hides, tallow, oil, bark, salt, indigo, cotton, and grain, while it has an active inland trade with Cashmere, Turkestan, Afghanistan, and Thibet. As there are also telegraphic cables between Madras and Singapore, and between the latter port and Hong Kong, there is complete telegraphic communication between Great Britain, her Indian possessions, and China.

The foreign trade of India has been for centuries famous for its value and importance. In 1871 and 1872 there were engaged in it 1,230 square-rigged vessels, 948 steamers, and 50,000 native craft. The manufactures and products of the country comprise articles required by the civilization of all the rest of the world.



In Bengal and Mysore there are extensive manufactures of silk, while Delhi is celebrated for its manufactures of this article. Benares and Ahmendabad are noted for gold brocade; the Punjab for silks, woollens, and white and colored cottons—amounting to £4,850,000 annually; while the cotton manufactures of Oude, the Central Provinces, and Mysore, are likewise of great importance, and in the latter section cutlery works and manufactures of gold and silver lace are extensive and flourishing. It may be mentioned here that silver is the standard of value in India, the unit being the rupee of 45½ cents.

The products of India are chiefly as follows: rice, which is the chief article of food of the country, and is produced in all parts of the country in which irrigation is practised; while maize and wheat are the grains cultivated in the northwestern provinces. Opium is one of the most valuable products of India. Coffee is largely produced in Ceylon, and the cultivation of the plant is rapidly spreading in southern India. Tea cultivation is now carried on successfully in Assam, the amount of its yield in 1872 having been 6,257,643 pounds. It is also rapidly spreading over all the hill-countries of northwestern India. Cinchona, or Peruvian bark, introduced from South America in 1860, has been naturalized with great success. The growth of cotton in India was much extended during our rebellion, but has since received less attention and has considerably fallen off. Jute is grown in Assam and Bengal, and has given rise to an important trade since the establishment of the Suez Canal. India rubber is another important product of Assam, the demand for which is increasing. Indigo is a staple product of India, having been a native production since a very remote period. It was imported thence by the ancient Greeks and Romans, but was lost to Europe during a great part of the Middle Ages. Bengal produces annually about 9,000,000 pounds of indigo. The importance of indigo in pigments will be readily appreciated when it is understood that, besides its ordinary coloring product, aniline was first obtained from it, while from this are produced the two tints, *mauve* and *magenta*.

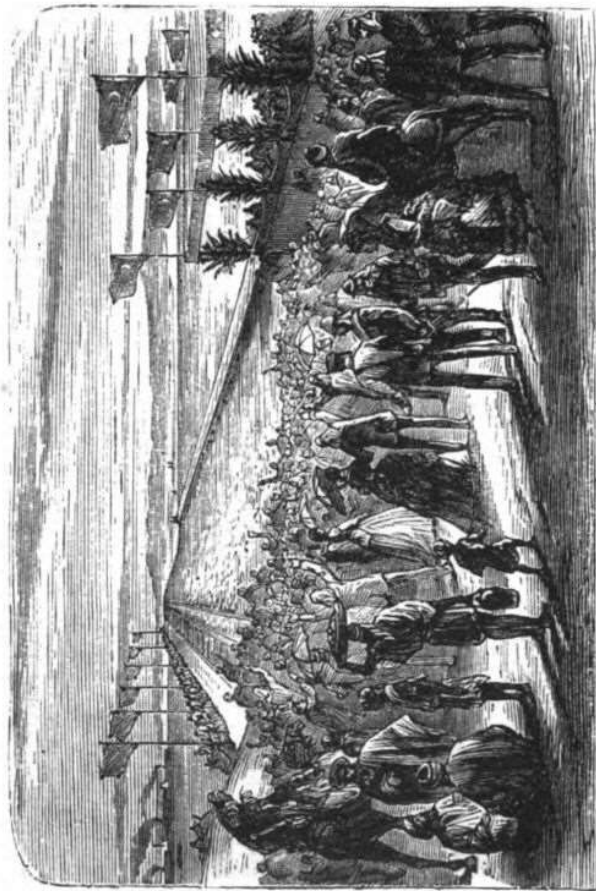
In the year 1871-2 the statistics of the Indian trade were as follows, the principal articles only being given:

EXPORTS.		IMPORTS.	
Coffee . . . . .	£1,380,409	Cotton twist and yarn . . . . .	£2,473,353
Cotton . . . . .	21,272,430	Cotton piece-goods . . . . .	15,009,981
Grains, including rice . . . . .	4,865,740	Mach nery . . . . .	405,835
Indigo . . . . .	3,705,475	Manufacturing metals . . . . .	925,839
Jute . . . . .	4,117,308	Raw metals . . . . .	1,464,936
Opium . . . . .	13,365,228	Rail'y materials & stores . . . . .	416,996
Seeds . . . . .	2,728,127	Salt . . . . .	913,915
Tea . . . . .	1,482,185	Raw silk . . . . .	651,595
Wool . . . . .	906,699	Silk goods . . . . .	480,948
		Wines and liquors . . . . .	1,381,961
		Gold and silver . . . . .	10,097,720
	£53,823,609		£34,323,079

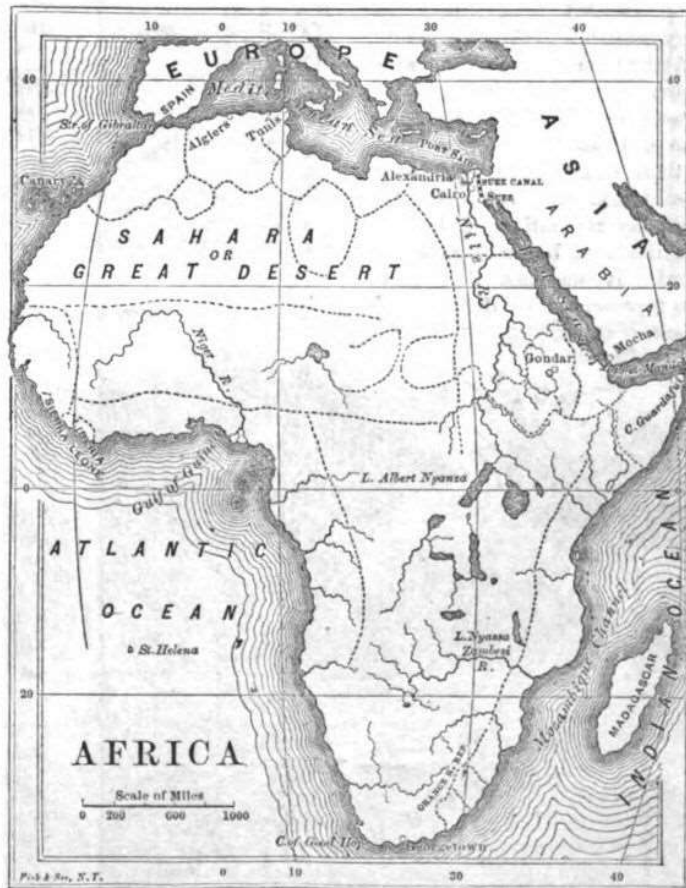
The imports into India, which in 1866 had risen to £56,156,529, or double the amount of 1857, in 1871 had fallen to £38,858,728.

The exports which, on account of the American war, had likewise reached the high figure of £69,471,791 in 1865, and had fallen to £44,291,497 in 1867, rose in 1871 to £57,818,022, showing a constant increase during the years since the opening of the canal.

Sufficient has here been given to display, at least in an approximate fashion, the importance of the commerce of India to the rest of the world. Under all circumstances, the attention of the civilized world is likely to be directed towards the affairs of the Suez Canal and the commerce, *via* Egypt, with India for a very long time to come.



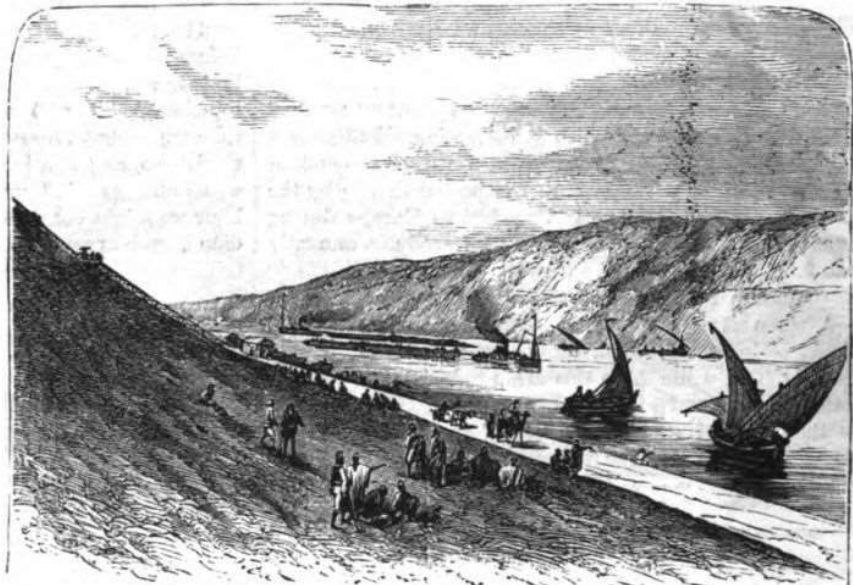
SUEZ CANAL.—THE WATERS OF THE MEDITERRANEAN ENTERING THE BASIN OF THE BITTER LAKES.—SEE PAGE 257.



MAP TO SHOW WHAT IS GAINED TO NAVIGATION BY THE SUEZ CANAL.



SUEZ CANAL.—MECCA PILGRIMS RETURNING THROUGH THE PARTLY COMPLETED SUEZ CANAL IN MARCH, 1869.—SEE PAGE 257.

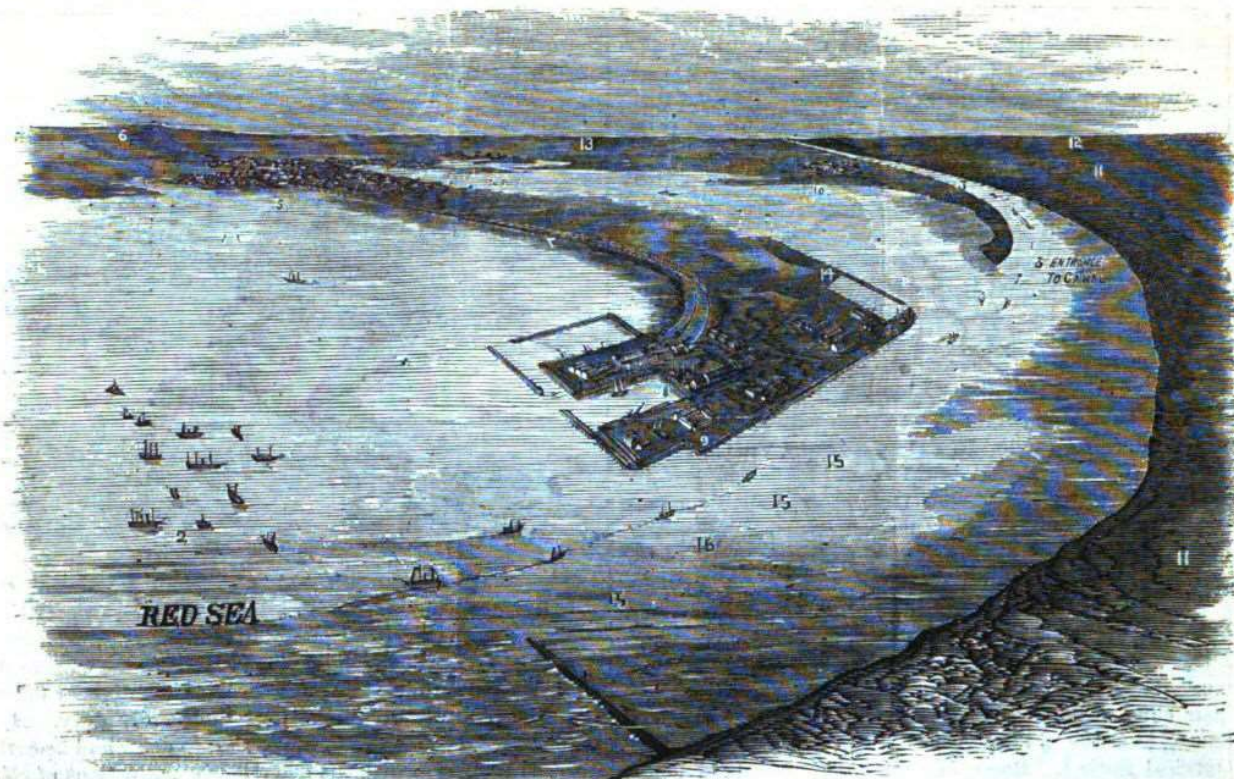


SUEZ CANAL.—VIEW OF THE CANAL AT EL GUISE STATION.



SUEZ CANAL.—THE FOUNTAINS OF MOSES.





1. Eastern Jetty. 2. Roadstead of Suez. 3. Entrance to the Maritime Canal. 4. The Sweet Water Canal. 5. City of Suez. 6. Mountain of Attaku. 7. The Road to the City from the Port. 8. The Repairing Dock. 9. The Offices of the Suez Canal Company. 10. Quarantine. 11. The Desert on the Asiatic Side. 12. Mountains of Syria. 13. Zebel Geneffe. 14. The Basin of the Suez Canal Company. 15. Floating Buoys along the Maritime Canal.

THE SUEZ CANAL.—GENERAL VIEW OF THE ISTHMUS OF SUEZ FROM THE ROADSTEAD.



THE SUEZ CANAL.—FORMAL OPENING—PROCESSION OF SHIPS IN CANAL, NOVEMBER 16, 1869.



SUEZ CANAL.—ARRIVAL OF MERCHANDISE AT SUEZ BEFORE THE OPENING OF THE CANAL.